AMSAT Weekly Satellite Report
Issue: WSR-195
Date: 2002-07-14
Sources: amsat-ans-2002-ans-195-weekly.txt

SB SAT @ AMSAT $ANS-195.S1
WEEKLY SATELLITE REPORT PART 1

AMSAT NEWS SERVICE BULLETIN 195.S1 FROM AMSAT HQ
SILVER SPRING, MD, JULY 14, 2002
TO ALL RADIO AMATEURS
BID: $ANS-195.S1

Phase 3D / AMSAT OSCAR 40 / AO-40
Launched: November 16, 2000 aboard an Ariane 5 launcher
from Kourou, French Guiana.
Status: Currently, the U/V/L-1/L-2 to S-2/K passband is active
at various times.
Uplink V-band 145.840 - 145.990 MHz CW/SSB
U-band 435.550 - 435.800 MHz CW/SSB
L1-band 1269.250 - 1269.500 MHz CW/SSB
L2-band 1268.325 - 1268.575 MHz CW/SSB
Downlink: S-band 2401.225 - 2401.475 MHz CW/SSB
K-band 24,048.010 - 24.048.060 MHz CW/SSB

AO-40 experimental transponder operation started on May 05, 2001 at
approximately 08:00 UTC when the U-band and L1-band uplinks were
connected to the S-2 transmitter passband downlink via the Matrix
switch.

There have been multiple requests to try the V uplink and the operations
team would also like to determine what the V-Rx hears in the way of
hemispheric "interference" on 145 MHz. Therefore, as an initial test,
from MA = 120 to 128 on Wednesdays only, the V-Rx will be connected to
the S2 Tx, along with both L-band receivers. Please post observations to
the amsat-bb.

Dave, WB6LLO reports the start of a new "Net" called the 40+20 Net.
Look for the net at the following "times".
Net time: 1st MA for UL, that MA + 40.
Frequency: Beacon + 20 kHz, then +5kHz and up if occupied.
More information is available at:
http://home.san.rr.com/doguimont/uploads
download: 40+20net.doc

V63ZF & 7X0DX have been active on AO-40.

Upcoming DX:
TY9F, Benin from July 15-August 15, 2002
HK0ZZ from July 16-29, 2002

Ground stations capturing telemetry from AO-40 are asked to send a
copy of the data to the AO-40 archive at: ao40-archive@amsat.org.

For the current transponder-operating schedule visit:

http://www.amsat-dl.org/journal/adlj-p3d.htm

[ANS thanks AMSAT-NA, AMSAT-DL and the ARRL for this information]
=====
INTERNATIONAL SPACE STATION/ARISS
Worldwide packet uplink: 145.990 MHz FM
Region 1 voice uplink: 145.200 MHz FM

Region 2/3 voice uplink: 144.490 MHz FM
Worldwide downlink: 145.800 MHz FM
TNC callsign: RS0ISS

The ARISS initial station was launched September 2000 aboard shuttle Atlantis. ARISS is made up of delegates from several major, national Amateur Radio organizations, including AMSAT.

Status: Operational.

Numerous contacts have been made with Valery Korzun.

ISS packet activity has resumed. When the mailbox function is active, ground stations are discouraged from using it. Currently, there is no computer hooked up to the packet system.

ARISS school contacts have resumed with the Expedition 5 crew of mission commander/U.S. astronaut Peggy Whitson, KC5ZTD, and Russian cosmonauts Valery Korzun, RZ3FK and Sergei Treschev, RZ3FU.

The latest ARISS announcements and successful school list is available at:

http://ariss.gsfc.nasa.gov

An archive of school contacts can be found at:

http://www.msnbc.com/news/505064.asp

NASA information on the ISS station can be found at:

http://spaceflight.nasa.gov/station/reference/radio/

The ISS daily crew schedule (which gives an idea when crew members have free time and may be available for Amateur Radio operations) can be found at:

http://spaceflight.nasa.gov/station/timelines/

A detailed breakdown of the antenna installation with some great pictures and diagrams (depicting the entire ISS ham system including antenna's) can be downloaded at:

http://ariss.gsfc.nasa.gov/EVAs/amsat01.pdf

U.S. callsign: NA1SS
Russian callsigns: RS0ISS, RZ3DZR

The QSL routes for W/VE stations working the International Space Station (all callsigns):

U.S. stations (a SASE is required to get a QSL in return):
Margie Bourgoin, KC1DCO
Attn: ARISS Expedition-1 (or 2, 3, etc.) QSL
ARRL, 225 Main Street
Newington, Connecticut 06111

Canadian stations:
Radio Amateurs of Canada
Attn: ARISS Expedition-1 (or 2, 3, etc.) QSL
720 Belfast Road, Suite 217
Ottawa, Ontario KEG 0Z5

European stations (a SASE and 2 IRC's are required to get

a QSL in return).
AMSAT-France
14 bis, rue des Gourlis
92500 Rueil Malmaison
France

[ANS thanks Will Marchant, KC6ROL, and Jean-Louis Rault, F6AGR,
for this information]
=====
AMSAT OSCAR 7 AO-7
Uplink: 145.850 to 145.950 MHz CW/SSB
Downlink: 29.400 to 29.500 MHz CW/SSB
Beacon: 29.502 MHz, 145.975 MHz
Launched: November 15, 1974 by a Delta 2310 from Vandenberg Air Force Base,
Lompoc, California. Status: Semi-operational in sunlight.

After being declared dead 21 years ago in mid 1981 due to battery failure,
AO-7 has miraculously sprung back to life and was first detected by
Pat Gowen, G3IOR on June 21, 2002 at 1728 UTC. Jan King, W3GEY reports
AO-7 is almost certainly running only off the solar panels. It is very
likely
to be
on only when in the sun and off in eclipse. Therefore, AO-7 will reset each
orbit
and may not turn on each time. It is in Mode A when the 29.502 MHz beacon
is detected.

On July 11, 2002 AO-7 was successfully commanded for the first time since
it was declared dead 21 years ago. Commands were sent and accepted to
change the CW beacon code speed.

Tim, K3TZ has written a program to decode AO-07 telemetry.
The program can be downloaded at:

http://www.qsl.net/k3tz/files/K3TZ_AO-07_Telemetry_Decoder_0.5.zip

For more AO-7 info: http://www.amsat.org/amsat/sats/n7hpr/ao7.html

[ANS thanks Pat Gowen, G3IOR and Jan King, W3GEY for this information]
=====
OSCAR 10 AO-10
Uplink: 435.030 to 435.180 MHz CW/LSB
Downlink: 145.975 to 145.825 MHz CW/USB
Beacon: 145.810 MHz (unmodulated carrier)
Launched: June 16, 1983 by an Ariane launcher from Kourou,
French Guiana. Status: Semi-operational

AO-10 has been locked into a Mode-B, 70-cm uplink and
2-meter downlink for several years.

W4SM has more information about the satellite at the following URL:

http://www.cstone.net/~w4sm/AO-10.html

[ANS thanks Stacey Mills, W4SM, for his AO-10 status information
and web site]
=====
RADIO SPORT RS-12
Uplink: 21.210 to 21.250 MHz CW/SSB
Downlink: 29.410 to 29.450 MHz CW/SSB
Beacon: 29.408 MHz
Robot: 29.454 MHz
Launched: February 5, 1991 aboard a Russian Cosmos C launcher
Status: RS-12 was placed in Mode-K on February 19, 2002.

The latest information on RS-12 and RS-13 can be found on the AC5DK
RS-12/13 Satellite Operators page at:

http://www.qsl.net/ac5dk/rs1213/rs1213.html

[ANS thanks Kevin Manzer, AC5DK, for RS-12 information]
=====
RADIO SPORT RS-13
Uplink: 21.260 to 21.300 MHz CW/SSB
Downlink: 145.860 to 145.900 MHz CW/SSB
Beacon: 145.860 MHz
Robot: 145.908 MHz
Launched: February 5, 1991 aboard a Russian Cosmos C launcher
Status: RS-13 was reactivated in Mode-T on February 19, 2002.

The latest information on RS-12 and RS-13 can be found on the AC5DK
RS-12/13 Satellite Operators page at:

http://www.qsl.net/ac5dk/rs1213/rs1213.html

[ANS thanks Kevin Manzer, AC5DK, for this information]
=====
UO-14
Uplink: 145.975 MHz FM
Downlink: 435.070 MHz FM
Launched: January 22, 1990 by an Ariane launcher from Kourou,
French Guiana. Status: Operational, mode J

Tim, KG8OC, features UO-14 information on the Michigan AMSAT
web site:

http://www.qsl.net/kg8oc

Ray, W2RS, has revised the AO-27 FAQ on < www.amsat.org > to
include information on UO-14.

[ANS thanks Chris Jackson, G7UPN/ZL2TPO, for UO-14 information]
=====
RADIO SPORT RS-15
Uplink: 145.858 to 145.898 MHz CW/SSB
Downlink: 29.354 to 29.394 MHz CW/SSB
Beacon: 29.352 MHz (intermittent)
SSB meeting frequency: 29.380 MHz (unofficial)
Launched: December 26, 1994 from the Baikonur Cosmodrome
Status: Semi-operational, mode-A, using a 2-meter uplink and a
10-meter downlink

Dave, WB6LLO, has operating information for both RS-15 on his
web site. In addition to satellite data, antenna information for
mode-A operation is also featured. The WB6LLO web site URL is:

http://home.san.rr.com/doguimont/uploads

[ANS thanks Dave Guimont, WB6LLO, for this information]
=====
JAS-1b FO-20
Uplink: 145.90 to 146.00 MHz CW/LSB
Downlink: 435.80 to 435.90 MHz CW/USB
Launched: February 07, 1990 by an H1 launcher from the Tanegashima
Space Center in Japan.
Status: Operational. FO-20 is in mode JA continuously

Tak, JA2PKI, reported FO-20 control station operators believe that the

UVC (Under Voltage Controller) now is regulating the transponder. The controller monitors battery voltage and tries to protect the batteries from over discharge.

[ANS thanks Kazu Sakamoto, JJ1WTK, for the FO-20 status reports]

=====

JAS-2 FO-29
Launched: August 17, 1996, by an H-2 launcher from the Tanegashima Space Center in Japan. Status: Operational

Voice/CW Mode JA
Uplink: 145.90 to 146.00 MHz CW/LSB
Downlink: 435.80 to 435.90 MHz CW/USB

Digital Mode JD
Uplink: 145.850 145.870 145.910 MHz FM
Downlink: 435.910 MHz 1200-baud BPSK or 9600-baud FSK
Callsign: 8J1JCS
Digitalker: 435.910 MHz

Last reported, the JARL FO-29 command station announced the operation schedule of FO-29 as mode JA through June 30, 2002.

Mineo, JE9PEL, has a FO-29 satellite telemetry analysis program that will automatically analyze all digital telemetry from the satellite (such as current, voltage and temperature). The JE9PEL FO-29/shareware is available at the following URL:

http://www.ne.jp/asahi/hamradio/je9pel/

[ANS thanks Kazu Sakamoto, JJ1WTK, for the FO-29 status reports]

=====

SO-41 SAUDISAT-1A
Uplink: 145.850 MHz
Downlink: 436.775 MHz
Broadcast Callsign: SASAT1-11
BBS: SASAT1-12
Launched: September 26, 2000 aboard a converted Soviet ballistic missile from the Baikonur Cosmodrome.
Status: Operational but intermittent.

One of two ham satellites from the Kingdom of Saudi Arabia built by the Space Research Institute at the King Abdulaziz City for Science and Technology.

The spacecraft is operating in Mode-J, currently configured as an analog FM voice repeater. The spacecraft will operate in this mode intermittently, as power and spacecraft experiments permit.

SO-41's downlink RF power is 1-watt with left-hand circular polarization. The uplink antenna (located on top of the spacecraft) is linear in polarization.

Further information is available at:

http://www.amsat.org/amsat/sats/n7hpr/so41.html

[ANS thanks Turki Al-Saud for this information]

/EX

SB SAT @ AMSAT $ANS-195.S2
WEEKLY SATELLITE REPORT PART 2

AMSAT NEWS SERVICE BULLETIN 195.S2 FROM AMSAT HQ
SILVER SPRING, MD, JULY 14, 2002
TO ALL RADIO AMATEURS
BID: $ANS-195.S2

OSCAR-11
Downlink: 145.825 MHz FM (1200-baud AFSK)
Mode-S Beacon: 2401.500 MHz
Launched: March 1, 1984 by a Delta-Thor rocket from Vandenberg Air Force Base in California. Status: Operational

The mode-S beacon on 2401.5 MHz has been heard by numerous operators including Robin, VE3FRH.

The operating schedule is unchanged.

ASCII status (210 seconds)
ASCII bulletin (60 seconds)
BINARY SEU (30 seconds)
ASCII TLM (90 seconds)
ASCII WOD (120 seconds)
ASCII bulletin (60 seconds)
BINARY ENG (30 seconds)

The ASCII bulletin is currently a static message, detailing modes and frequencies of all active Amateur Radio satellites.

More information on OSCAR-11 is available at the following URL:

http://www.users.zetnet.co.uk/clivew/

[ANS thanks Clive Wallis, G3CWV, for OSCAR-11 status information]
=====
PACSAT AO-16
Uplink: 145.90 145.92 145.94 145.96 MHz FM
(using 1200-baud Manchester FSK)
Downlink: 437.025 MHz SSB (RC-BPSK 1200-baud PSK)
Mode-S Beacon: 2401.1428 MHz
Broadcast Callsign: PACSAT-11
BBS: PACSAT-12
Launched: January 22, 1990 by an Ariane launcher from Kourou, French Guiana. Status: Semi-operational, the digipeater command is on.

A WOD collection of current graphics along with general information and telemetry samples can be found at:

www.telecable.es/personales/ea1bcu

[ANS thanks Miguel Menendez, EA1BCU, for AO-16 status information]
=====
UOSAT UO-22
Uplink: 145.900 FM 9600-baud FSK
Downlink: 435.120 MHz FM
Broadcast Callsign: UOSAT5-11
BBS: UOSAT5-12
Launched: July 17, 1991 by an Ariane launcher from Kourou, French Guiana. Status: Operational

Jim, AA7KC, reports UO-22 is operational with excellent Gateway traffic. United States, Brazil, S. Africa and Spain are just a few of the many areas represented.

More information on the satellite is available at the following URL:

http://www.sstl.co.uk/

[ANS thanks Chris Jackson, G7UPN/ZL2TPO, for UO-22 information
and Jim Weisenberger, AA7KC, for status information]
=====
ITAMSAT IO-26
Uplink: 145.875 145.900 145.925 145.950 MHz
FM (1200-baud)
Downlink: 435.822 MHz SSB
Broadcast Callsign: ITMSAT-11
BBS: ITMSAT-12
Launched: September 26, 1993 by an Ariane launcher from Kourou,
French Guiana. Status: Semi-operational, the digipeater function is on
and open for APRS users.

[ANS thanks ITAMSAT Project Manager Alberto E. Zagni, I2KBD, for
IO-26 information]
=====
PCSAT NO-44
Uplink/downlink: 145.827 MHz 1200 baud AX-25 AFSK via PCSAT-1
Aux/Uplink: 435.250 MHz 9600 baud via PCSAT-2 (off)
APRS Downlink: 144.390 MHz (Region 2)
Launched: September 30, 2001 aboard an Athena-1 rocket from the
Kodiak, Alaska launch complex. Status: Operational

The command team cannot keep PCsat parameters loaded as it resets
each time in enters darkness (14 times a day). It will only digipeat
when in sunlight after it has had some time to charge up.

The only PCsat digipeater callsign that will work is via W3ADO-1.

Please use it to conduct any experiments you like before it is
completely dead. Just don't transmit too often and share it.

PCSat is a 1200-baud APRS digipeater designed for use by
stations using hand-held or mobile transceivers. Downlinks feed a
central web site < http://pcsat.aprs.org >. The APRS-equipped
PCSat was built by midshipmen from the U.S. Naval Academy
under the guidance of Bob Bruninga, WB4APR.

A new version of PCSAT.EXE has been posted at:

ftp://tapr.org/dosstuff/APRSdos/pcsat017.zip

For more information, visit the PCSat web site at:

http://web.usna.navy.mil/~bruninga/pcsat.html

[ANS thanks Bob Bruninga, WB4APR, for PCSat information]
=====
TIUNGSAT-1 MO-46
Uplink: 145.850 or 145.925 MHz 9600-baud FSK
Downlink: 437.325 MHz
Broadcast callsign: MYSAT3-11
BBS: MYSAT3-12
Launched: September 26, 2000 aboard a converted Soviet ballistic
missile from the Baikonur Cosmodrome. Status: Operational at
38k4-baud FSK

TiungSat-1 is Malaysia's first micro-satellite and in addition to
commercial land and weather imaging payloads offers FM and FSK
Amateur Radio communication.

TiungSat-1, named after the mynah bird of Malaysia, was developed as

a collaborative effort between the Malaysian government and Surrey Satellite Technology Ltd.

[ANS thanks Chris Jackson, G7UPN/ZL2TPO, for this information]

/EX

SB SAT @ AMSAT $ANS-195.S3
WEEKLY SATELLITE REPORT PART 3

AMSAT NEWS SERVICE BULLETIN 195.S3 FROM AMSAT HQ
SILVER SPRING, MD, JULY 14, 2002
TO ALL RADIO AMATEURS
BID: $ANS-195.S3

THE FOLLOWING ARE IN ORBIT BUT ARE
SEMI-OPERATIONAL AT THIS TIME:

TECHSAT-1B GO-32
Downlink: 435.225 MHz using HDLC telemetry
Launched: July 10, 1998 by a Russian Zenit rocket from the Baikonur Cosmodrome. Status: Semi-operational.

Last reported, the satellite does transmit a 9600-baud burst every 30 seconds (the GO-32 beacon sends one short telemetry status transmission of 44 bytes) and upon request the complete telemetry buffer.

[ANS has no further information]
=====
SEDSAT-1 SO-33
Downlink: 437.910 MHz FM (9600-baud FSK)
Launched: October 24, 1998 by a Delta 2 rocket from Cape Canaveral, Florida. Status: Semi-operational.

The satellite is not currently available for uplink transmissions and the image and transponder recovery efforts have been unsuccessful.

SO-33 is now transmitting only a TIME STAMP, and the other KISS data seems to be invalid.

SedSat-1 signifies Students for the Exploration and Development of Space (satellite number one).

SedSat-1 has downlinked months worth of telemetry data on the performance of its electrical power system parameters. The Nickel Metal Hydride batteries on the spacecraft were experimental and experienced some abuse due to a power negative situation. This situation has provided NASA with useful information. With the exception of the imaging system and the use of the transponders, SedSat-1 has been judged a success.

For more information on SedSat-1 visit the satellite web site at the following URL:

http://seds.uah.edu/projects/sedsat/sedsat.htm

[ANS has no further information]

THE FOLLOWING ARE IN ORBIT BUT ARE
NON-OPERATIONAL AT THIS TIME:

LUSAT LO-19
Uplink: 145.84 145.86 145.88 145.90 MHz FM

```
           (using 1200-baud Manchester FSK)
CW downlink:        437.125 MHz
Digital downlink:   437.150 MHz SSB (RC-BPSK 1200-baud PSK)
Broadcast Callsign: LUSAT-11
BBS:            LUSAT-12
Launched: January 22, 1990 by an Ariane launcher from Kourou, French
Guiana. Status: Beacon only. The CW beacon is sending eight telemetry
channels and one status channel on 437.126 MHz. No BBS service is
available. The digipeater is not active.

General information and telemetry samples can be found at:

www.telecable.es/personales/ea1bcu

[ANS thanks Miguel Menendez, EA1BCU, for LO-19 status information]
=====
KITSAT KO-23
Uplink:         145.900 MHz FM (9600-baud FSK)
Downlink:       435.170 MHz FM
Broadcast Callsign: HLO1-11
BBS:            HLO1-12
Launched: August 10, 1992 by an Ariane launcher from Kourou,
French Guiana. Status: Non-operational.

Jim, AA7KC, reports that KO-23's downlink transmitter continues in a
non-operational status.

[ANS thanks Jim Weisenberger, AA7KC, and KyungHee Kim, HL0ENJ,
for KO-23 status information]
=====
KITSAT KO-25
Uplink:         145.980 MHz FM (9600-baud FSK)
Downlink:       436.500 MHz FM
Broadcast Callsign: HL02-11
BBS:            HL02-12
Launched: September 26, 1993 by an Ariane launcher from Kourou,
French Guiana. Status: Non-operational

Jim, AA7KC, reports the downlink transmitter is on, but there
is no downlink data.

Andrew, G8TZJ reports KO-25 has been transmitting the typical AFSK
signal that indicates re-loading is in progress.

[ANS thanks Jim Weisenberger, AA7KC, and Andrew, G8TZJ for this information]
=====
AMRAD AO-27
Uplink:     145.850 MHz FM
Downlink:   436.795 MHz FM
Launched: September 26, 1993 by an Ariane launcher from Kourou,
French Guiana. Status: Non-operational, mode J.

June 14th, 2002
The Batteries continue to refuse to charge up. They continue to show
the same low voltage as they did after the weekend of analogue
repeater use. We are downloading telemetry on weekends and continue to
look for a solution. There is not a schedule in place right now for
when the satellite will return to normal use.

The latest information on AO-27 from control operator Michael
Wyrick, N3UC (former N4USI), can be found at:

www.ao27.org
```

An AO-27 question-and-answer page is available on the AMSAT-NA web
site, with updates by Ray, W2RS. The URL is:

http://www.amsat.org/amsat/intro/ao27faq.html

[ANS thanks AMRAD for AO-27 information]
=====
TMSAT-1 TO-31
Uplink: 145.925 MHz (9600-baud FSK)
Downlink: 436.925 MHz (9600-baud FSK)
Broadcast Callsign: TMSAT1-11
BBS: TMSAT1-12
Launched: July 10, 1998 by a Zenit rocket from the Baikonur
Cosmodrome. Status: Non-operational, no data downlinked
since December 18, 2000.

Chris G7UPN, (UoSAT operations manager) reports the
following to ANS:

The TO-31 downlink will be off over most areas, with the exception of
Europe and Thailand.

ProcMail V2.00G has been released by G7UPN. This software permits
the processing of image files from TO-31. It has been posted to the
AMSAT-NA FTP site at the following URL:

http://www.amsat.org/amsat/software/win32/wisp

Many of the high-resolution color images transmitted by TMSAT are
compressed using a UoSAT compression format. This format is
supported by the VK5HI CCD display program.

[ANS thanks Chris Jackson, G7UPN/ZL2TPO, for TO-31 status
information]
=====
PANSAT PO-34
Uplink/downlink frequency (listed on the PanSat web site) 436.500 MHz
Launched: October 30, 1998 by the Shuttle Discovery. Status: Unknown

The satellite is not available for general uplink transmissions.

The Naval Postgraduate School developed PanSat. At the time of
launch, PanSat spread-spectrum digital transponders were to
be available to Amateur Radio operators along with software to utilize
this technology.

The satellite is still operating, however, the spread spectrum packet
radio portion never took place. The spacecraft is now beyond it's
initial 2-year mission life, but telemetry records are still being
downloaded.

For more information, visit the official PanSat web site at:

http://www.sp.nps.navy.mil/pansat/

PanSat was the featured cover article on the July/August 1999 issue of
the AMSAT-NA Journal (the story written by KD6DRA and N7HPR).

[ANS has no further information]
=====
UoSAT-12 UO-36
Uplink: 145.960 MHz (9600-baud FSK)
Downlink: 437.025 MHz 437.400 MHz
Broadcast Callsign: UO121-11

BBS: UO121-12
Launched: April 21, 1999 by a Russian launcher from the Baikonur Cosmodrome. Status: Unknown

UO-36 carries a number of imaging payloads, digital store-and-forward communications and mode L/S transponders.

Paul, KB2SHU, tells ANS that UO-36 has not been operational (over North America) since late July 2001. In addition, Sangat, 9M2SS, reports he has not copied UO-36 since July 30, 2001.

The VK5HI viewer shareware for UO-36 is available on the AMSAT-NA web site at the following URL:

ftp://ftp.amsat.org/amsat/software/win32/display/ccddsp97-119.zip

Further information on UO-36 is available from: http://www.sstl.co.uk/

[ANS thanks Chris G7UPN/ZL2TPO, and the University of Surrey for UO-36 information]
=====
SO-42 SAUDISAT-1B
Uplink: to be released
Downlink: 437.075 MHz
Broadcast Callsign: SASAT2-11
BBS: SASAT2-12
Launched: September 26, 2000 aboard a converted Soviet ballistic missile from the Baikonur Cosmodrome. Status: Unknown, ANS has received no additional information.

When/if operational, SaudiSat-1B will operate as 9600-baud digital store-and-forward systems as well analog FM repeater mode capability. One of two new ham satellites from the Kingdom of Saudi Arabia built by the Space Research Institute at the King Abdulaziz City for Science and Technology.
=====
SAPPHIRE NO-45
Downlink: 437.095 MHz 1200 baud AX-25 AFSK
Uplink: 145.945 MHz UI Digipeater
Launched: September 30, 2001 aboard an Athena-1 rocket from the Kodiak, Alaska launch complex. Status: Non-operational

Student built Sapphire was launched through the U.S. Naval Academy Satellite program. Its primary missions are sensor experiments, a camera, and voice synthesizer. For more information, visit the Sapphire web site at:

http://students.cec.wustl.edu/~sapphire/sapphire_overview.html

[ANS thanks Bob Bruninga, WB4APR, for PCSat information]

/EX

ANS is released worldwide via the AMSAT ANS e-mail reflector and a live radiocast on the AMSAT-NA 20-meter net held each Sunday on 14.282 MHz. Pre-net operations start at 18:00 UTC, with current ANS bulletins transmitted to the eastern U.S. at 19:00 UTC and to the western U.S. at 19:30 UTC.

Information on AMSAT-NA is available at the following URL:

http://www.amsat.org <http://www.amsat.org/> (or from)

AMSAT-NA

850 Sligo Avenue, Suite 600
Silver Spring, Maryland 20910-4703

Voice: 301-589-6062
888-322-6728
FAX: 301-608-3410

Currently, AMSAT-NA supports the following (free) mailing lists:

* AMSAT News Service (ANS)
* General satellite discussion (AMSAT-BB)
* Orbit data (KEPS)
* Manned space missions (SAREX)
* District of Columbia area (AMSAT-DC)
* New England area (AMSAT-NE)
* AMSAT Educational Liaison mailing list (AMSAT-EDU)
* AMSAT K-12 Educational Liaison mailing list (AMSAT-K12)

A daily digest version is available for each list.

To subscribe, or for more list information, visit the following URL:

http://www.amsat.org/amsat/listserv/menu.html

In addition to regular membership, AMSAT-NA offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Initially, there will be two levels for donations - Gold and Silver. Application forms are available from the AMSAT-NA Office.

AMSAT-NA has developed an on-line volunteer survey, designed to identify the interests and skills of those who may be available to directly help in efforts to develop the amateur satellite program. The survey is designed to be completed and returned on-line, and takes only a few minutes to fill out. To request the survey, simply send an e-mail request to:

volunteer@amsat.org

ANS would like to thank Mike Seguin, N1JEZ, ANS principal satellite investigator, for helping provide current satellite information.

ANS is always dedicated to past ANS editor 'BJ' Arts, WT0N, and to the memory of long-time AMSAT supporters Werner Haas, DJ5KQ, and Dennis Kitchen, G0FCL.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

/EX